United States Department of Agriculture
National Agricultural Statistics Service

Wisconsin Ag News – Chemical Use
Soybeans: Fall 2017

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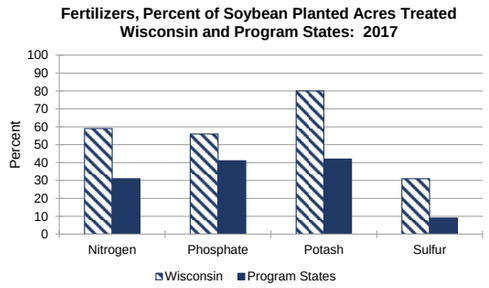
The 2017 Agricultural Chemical Use Survey of soybean producers collected data about fertilizer and pesticide use as well as pest management practices in growing soybeans.

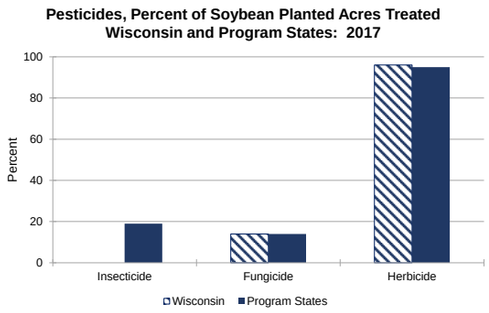
Fertilizer Use

Fertilizer refers to a soil-enriching input that contains one or more plant nutrients, primarily nitrogen (N), phosphate (P_2O_5), and potash (K_2O). Of the three primary macronutrients, potash was the most widely used on soybeans planted in Wisconsin according to the latest USDA, National Agricultural Statistics Service – *Agricultural Chemical Use* report. Farmers applied potash to 80 percent of planted acres at an average rate of 91 pounds per acre per year. Macronutrients nitrogen and phosphate were applied to a little more than half of the soybean acreage, at an average rate of 19 and 43 pounds per acre per year, respectively. The secondary macronutrient, sulfur, was applied to 31 percent of acres planted to soybeans.



Pesticide Use

The pesticide active ingredients used on soybeans are classified in this report as herbicides (targeting weeds), insecticides (targeting insects), fungicides (targeting fungal disease) and other chemicals (targeting all other pests and other materials, including extraneous crop foliage). Herbicides were applied to 96 percent of the soybean acres planted. Among herbicides, glyphosate isopropylamine salt and glyphosate potassium salt were the most widely applied active ingredients. Fungicides were applied to 14 percent of soybean acres planted in Wisconsin.



	Wisconsin			Program States [1]		
	Planted acres treated (%)	Rate applied per year (pounds per acre)	Total pounds applied (1,000 pounds)	Planted acres treated (%)	Rate applied per year (pounds per acre)	Total pounds applied (1,000 pounds)
Fertilizer Use on Soybeans						
Nitrogen	59	19	24,300	31	18	468,300
Phosphate	56	43	52,500	41	52	1,771,200
Potash	80	91	156,000	42	91	3,207,900
Sulfur	31	14	9,100	9	15	112,200
Pesticide Use on Soybeans by Active Ingredient						
FUNGICIDE:						
Fluxapyroxad	4	0.047	4	5	0.055	215
Pyraclostrobin	4	0.094	8	5	0.121	552
TOTAL FUNGICIDE[2]	14		47	14		1,937
HERBICIDE:						
2,4-D, 2-EHE	2	0.528	27	13	0.609	6,690
Acetochlor	3	1.237	78	3	1.114	3,213
Chlorimuron-Ethyl	13	0.011	3	12	0.020	209
Clethodim	8	0.086	15	11	0.100	915
Cloransulam-Methyl	8	0.020	4	9	0.026	188
Flumioxazin	11	0.062	15	13	0.074	806
Fomesafen Sodium	5	0.217	21	19	0.240	3,858
Glyphosate	4	1.100	106	8	0.923	6,266
Glyphosate Iso. Salt	60	1.024	1,327	46	1.145	44,232
Glyphosate Pot. Salt	40	1.450	1,238	30	1.590	40,318
Imazethapyr	14	0.062	19	8	0.047	328
Metribuzin	6	0.227	29	18	0.256	3,726
Pyroxasulfone	6	0.111	13	10	0.125	1,034
Saflufenacil	5	0.022	2	8	0.028	184
Sulfentrazone	10	0.147	30	22	0.179	3,309
Thifensulfuron	6	0.005	1	5	0.011	41
TOTAL HERBICIDE[2]	96		3,058	95		161,144
INSECTICIDE:						
TOTAL INSECTICIDE[2]	(D)		(D)	19		2,735

(D) Withheld to avoid disclosing data for individual operations.
[1] The 16 program states surveyed about soybeans in the 2017 ARMS were Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Mississippi, Missouri, Nebraska, North Carolina, North Dakota, Ohio, South Dakota, and Wisconsin.
[2] Total Fungicide, Herbicide, and Insecticide includes pesticides that are not listed in this table. Pesticides were not listed if data were withheld to avoid disclosing data for individual operations, or the total was less than half the rounding unit.

Pest Management Practices: Scouting for weeds was the top pest management practice on **soybeans** acreage.

Pest Management Practices	Wisconsin		Program States [1]	
	% of area planted	% of operations	% of area planted	% of operations
Avoidance				
Crop or plant variety chosen for specific pest resistance	59	56	52	51
Planting locations planned to avoid cross infestation of pests	27	21	18	17
Planting or harvesting dates adjusted	18	18	19	18
Rotated crops during past 3 years	86	84	88	87
Row spacing, plant density, or row directions adjusted	26	19	20	19
Monitoring				
Diagnostic laboratory services used for pest detection via soil or plant tissue analysis	8	8	8	7
Field mapping data used to assist decisions	16	16	16	14
Scouted -				
-established process used	39	28	21	19
-for pests due to a pest advisory warning	9	6	12	11
-for pests due to a pest development model	2	4	8	7
-for pests or beneficial organisms-not scouted	5	9	4	5
-for pests or beneficial organism by conducting gen. observations while performing routine tasks	11	17	26	30
-for pests or beneficial organism by deliberately going to the crop acres or growing areas	85	73	70	65
Scouted for diseases	82	75	85	80
-by employee	7	2	3	2
-by farm supply company or chemical dealer	19	23	11	13
-by independent crop consultant or commercial scout	15	10	15	11
-by operator, partner, or family member	58	65	71	74
Scouted for insects & mites	85	80	88	83
-by employee	7	2	3	2
-by farm supply company or chemical dealer	19	21	11	13
-by independent crop consultant or commercial scout	14	9	14	11
-by operator, partner, or family member	60	67	72	75
Scouted for weeds	95	91	95	94
-by employee	6	2	2	2
-by farm supply company or chemical dealer	17	19	10	11
-by independent crop consultant or commercial scout	13	9	13	9
-by operator, partner, employee, or family member	64	70	74	78
Weather data used to assist decisions	68	77	67	66
Written or electronic records kept to track pest activity	44	33	35	30
Prevention				
Beneficial insect or vertebrate habitat maintained	10	8	9	9
Crop residues removed or burned down	5	11	13	14
Equipment & implements cleaned after field work to reduce spread of pests	27	25	41	40
Field edges, ditches, or fence lines were chopped, sprayed, mowed, plowed, or burned	36	30	53	50
Field left fallow previous year to manage insects	2	(Z)	1	1
Flamer used to kill weeds	0	0	(Z)	1
No-till or minimum till used	76	74	72	73
Plowed down crop residue using conventional tillage	18	19	24	24
Seed treated for insect or disease control after purchase	39	33	45	40
Water management practices used	5	1	6	6
Suppression				
Beneficial organisms applied or released	2	1	1	1
Biological pesticides applied	2	2	5	5
Buffer strips or border rows maintained to isolate organic from non-organic crops	11	10	7	7
Floral lures, attractants, repellants, pheromone traps, or biological pest controls used	0	0	(Z)	1
Ground covers, mulches, or other physical barriers maintained	47	47	42	40
Pesticides with different mechanisms of actions to keep pest from becoming resistant to pesticides	32	34	37	35
Scouting data compared to published information to assist decisions	32	24	26	23
Trap crop grown to manage insects	(Z)	(Z)	(Z)	(Z)

(Z) Less than half the rounding unit.

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